Space Pi

Space Pi white paper

Chapter I, Project Development Back-ground

1.1 Blockchain and game applications

Blockchain (Blockchain) is an accounting technology that is jointly maintained by multiple parties and secures transmission and access, enabling consistent data storage, being difficult to tamper with, and preventing offset, also known as Dis-tributed Accounting Technology (Distributed Ledger Technology).

Thanks to the characteristics and advantages of blockchain technology: block chain data structure to verify and store data, distributed computer nodes to gener-ate and update data, cryptography to guarantee the security of data transmission and access, intelligent contracts composed of self-chemical script code to pro-gram and operate data and form a new distributed infrastructure and computing paradigm. In addition, blockchain technology can establish reliable trust between point-to-point in the network, separating the value transfer process from the dependence on the intermediary, disclosing information and protecting privacy, co-making and protecting individual rights and interests. This mechanism improves the efficiency of value interaction and reduces costs.

With the rise of NFT mode, blockchain, digital currency and games will collide with new sparks, especially the DeFi ecology

dominated by NFT. Drived by the pledge lending and liquidity mining mode, the whole market pattern is undergoing profound changes, and the future advantage market is full of opportunities. Games were one of the earliest and largest blockchain applications. Blockchain + gaming is exciting because it empowers players and enhances their experience. With blockchain games, players can enjoy several main benefits:

Game Item Ownership

All the props and elements in the game can be linked. Whether it's scarce resources, scarce props, or coveted booty, and characters and incarnations (ava–tar), any entity in the game environment can exist in the way of encrypted assets. Typically, this appears as homogeneous tokens (in the form of game tokens) or non–homogeneous tokens (as props and incarnations) on existing blockchain net–works. The core component of the blockchain is to provide users with ownership of its value. When the game elements are linked, they can interact directly with the player. When the avatar and account are associated with the player's wallet, the player can send the collected booty, the accumulated money to their wallet, which they won in the game. In such systems, players player can harvest what they sow. They have all kinds of props, these will always belong to the player. Developers don't have the right to take back anything the player wins, which still belong to the

player even if the game is shut down. They can send props to other wallets and sell them to others in order to make real profits. Players' ownership of their items allows them to extract tangible fruit from their efforts and success.

2. is provable for fair gameplay

The wrong gameplay is terrible. The experience is very bad for every player when the player tricks the opponent, or the game is not running what people intended for. Blockchain games can achieve "provably fair gameplay". When the game is linked, the game logic and gameplay elements are also shared. The consensus mechanism that ensures blockchain networks also ensures the game. This means two things for the player. One is that scammers or anyone else who tries to invade the player cannot succeed. If their actions contradict the game logic, their activities are rejected; second, the game is transparent.

3. for cross-game communication

What do players do when they stop playing the games they like? Either they quit, or the game disappears. That is, either the community leaves or the develop-ers no longer operate. Unfortunately, not much

they can do except to find the next game and start from scratch. The game exists in the suspended independent universe. In the current industry, there is no continuity between different games. With blockchain, it will change. When games and game assets exist on the blockchain, they can communicate with any other environment on the same blockchain. If the developer made a sequel to the game, then, props from previous games could be brought to the second game. The avatar can be used in multiple games. Tasks or events can be played across games. What's more, players may never have to start it all over again. Ideally, the player has a single generic avatar that follows the player to use in different games. The player's virtual currency and props can be used across games.

4.Reduce costs

The game development industry has low payment rates, and related costs may be higher than revenue. If there is no good revenue model, even if the game has a certain user base, the game distribution, server maintenance, player services and other support may be a burden that developers cannot bear. By building games on the blockchain, all these costs can be potentially outsourced to miners or veriators. Online game release and dissemination can be zero-cost things.

5. Enhance the player base

Both existing and future players in blockchain games are interesting among the consumer community A subset of the. These players developed a keen interest in their gameplay and gained more attention through the proceeds. Blockchain games connect developers to the Super Gamer community, with more resources and investment in games. Both sides can build more positive, efficient, and benefi–cial relationships than traditional game opponents.

1.2 DeFi, along with the development of the NFT

With the push of the Ethereum smart contract, 2018 shows the concept of DeFi, that is, the concept of distributed finance.The significance of DeFi is that it has the ability to build financial scenarios through contracts, through which people can complete financial services without intermediaries, such as borrowing, stablectoins, token trading, derivatives trading, insurance, prediction, etc. It presents a different financial service characteristics from before the completion. For example, it has immutable and transparent ledger, uncontrolled contracts, even the contract devel–opers, the developers of the agreement, can not control the operation of the con–tract, which is a new financial ecology, with a lot of possibilities.

DeFi provides unprecedented liquidity for the entire crypto world through liquidity mining, pledge lending, and automated market making.In 2021, DeFi became a more mature financial market and possibly even part of central finance. In addition, NFT is trying out various domain possibilities.

The concept of NFT has since originated from a hot style app CryptoKitties (plus Secret Cat), NFT is short for Non-Fungible Token, meaning non-homogenized tokens, mainly issued by the ERC-721 standard. Simply understand, every NFT is a unique digital currency asset that can circulate, trade and purchase, with different values and attributes to each other,

It is not interchangeable.

NFT non-homogenized tokens are the only and inseparable Token, such as To-ken-based game props, tickets, art, etc.NFT takes ERC721 as the standard, and then shows the ERC1155 protocol that each ID represents not a single asset, but an asset category, allowing the batch creation of multiple tokens at a time. Overall, non-homogeneous tokens are a unique digital asset. Assets like Bitcoin are inter-changeable, meaning that all Bitcoins are the same and interchangeable.

Currently, it is now clear that NFT's main areas of application include games, art-work, domain domains, collectibles, virtual assets, real-world assets certification (ST.) Other areas, especially art and games, pay more attention in the market. Some game props and art are naturally unique and inseparable, just coupled to the NFT, so the NFT can effectively prevent the counterfeiting and fraud of such items. The NFT market has achieved rapid growth since the end of 2020. Traditional companies looking for new businesses are increasingly interested. Also, as technol-ogy continues, more money goes into the space. We are surging in the encryption market with interest in NFT in the past few months, with total transaction volume already over billions of dollars.NFT has a market cap of more than $30 billion and a

24–hour trading volume of over $34, accounting for 0.7% of total cryptocurrency transactions. Although the current NFT proportion of NFT does not seem to be high, but its huge potential has attracted industry attention. In the context of global digital transformation, NFT will play an irreplaceable role in the future blockchain ecosystem, and may even become the key driving force and cornerstone for many industries to realize the transformation of the digital economy. For the exchange, how to be under the new wind outlet

Seizing the opportunity and doing this to promote the digital economy is worth thinking deeply.

The rise of the concept of the 1.3 me–ta–universe

The concept of metaverse (Metaverse) originated in science fiction, or pointed to the ”ultimate form” of the Internet.The term Metaverse comes from writer Neal Stephenson’s science fiction Avalanche and describes a world where people inter–act with various software in three–dimensional images.
Conceptually, the term Metaverse consists of Meta and Verse, and Meta means transcendence, and verse represents the universe (universe), which usually rep–resents the concept of ”surpassing

the universe": an artificial space running parallel to the real world. Looking back on the development of the Internet, from PC LAN to mobile Internet, the immersion of Internet use has gradually improved, and the distance between virtual and reality has gradually narrowed. Under this trend, the Metaverse of the Internet or the ultimate form of the Internet.

Technically, on the basis of the traditional Internet, the metamoverse in immersion, participation, sustainability and other aspects of higher requirements, so will be many independent tools, platforms, infrastructure, protocols to support its opera–tion. With the maturity of technologies such as AR, VR, 5G, cloud computing increasing, the metaverse is expected to gradually move from concept to reality.

Metaverse: virtual and reality are highly interconnected, and closed–loop economies are attached to the open source platform. Although there is no detailed description of the final form of the metacUniverse in the industry, we can still determine the four core metacological properties by refining its characteristics:

–Synchronization and fidelity. Virtual space and the real society remain highly syn–chronous and interconnected, interactive

The effect is close to being real. Synchronization and quasi–realistic virtual worlds are the conditions underlying the composition of the original universe, meaning that all events occurring in real society will be synchronized in the virtual world, while users get close to real feedback when interacting in the virtual metacaverse.

–Open source and creation. Open source also means open source technology and open source platform. The metauniverse encapsulates the code and modulates it to different degrees by formulating standards and agreements. All users with different needs can create it in the metamouniverse to form a native virtual world and con–stantly expand the metauniverse margin.

— Pertuities. The metaverse platform will not ”pause” or ”end”, but runs as open source and continues indefinitely.

–Closed–loop economic system. Users’ production and work activities will be rec–ognized in a unified currency of the platform, and players can use the money to consume the content within the platform, or replace the real currency through a certain proportion. The economic system is the engine driving the continuous prog–ress and development of the metaverse.

1.4 The birth of the SpacePi Token

SpacePi Token argued that the game is the primary form of the metaverse. In terms of product form, the game is the prototype of the metaverse. As a virtual world constructed based on people’s realistic simulation, extension and unre–strained imagination, its product form is similar to that of the metaverse:

In terms of 1) synchronization and authenticity, the game gives each player a virtual identity, such as a username and game image, and enables social relationships in the game community, while the game uses rich storylines and frequent interaction with the player

Real pictures and coordinated sound effects constitute an environment with high cognitive requirements, so that players must use a lot of mental resources to focus on what happens in the game, thus producing the so-called "immersion salt"
The Heart \ 0

2) In terms of open source and creation, players have full freedom within the framework and rules of the game, which can not only simply enjoy the game picture and sound effects, but also pursue the ultimate equipment and operation.

3) In terms of economic systems, each game has its own game currency, in which players can shop, sell, transfer money, or even withdraw cash. To sum up, several basic needs of the metaverse are integrated into the game, making the game the most likely track to build the prototype of the metaverse.

Based on the integration of Web3.0, holographic Internet technology, blockchain and NFT, the values shown by the concept of the metauniverse fit with the core value of the Internet.SpacePi believes that the metamoverse may be the ultimate form of the Internet. Therefore, we take games as the entry point, and create a SpacePi —— virtual life blockchain

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Chapter II, Project Overview

2.1 Project Profile

SpacePi Token, SpacePi, combines the two blockchain categories of NFT and metauniverse, aims to create a decentralized online virtual reality game platform, integrating characters, props and life storylines into virtual social interaction, where players can buy weapons, armor and prop gems in the virtual world. Participate in different collection to develop virtual, life, action and other games. Thus, SpacePi is the first and only cross-metaverse and NFT domain project.All the benefits of SpacePi are presented as the native token SpacePi in the game.

SpacePi game ecological integration strategy, collection and cultivation and other gameplay, with a strong game play. It is also the main body of the current stage of NFT metacosmic ecology. SpacePi takes games as the drainage, create traffic for SpacePi in the early stage, give tokens real circulation value, open up the transaction channel between users and the platform, and provide broader traffic support for SpacePi ecosystem 2.0, so as to create a consensus base of SpacePi.

.Under the technical support of Binan intelligent chain, SpacePi virtual life block–chain game system has the characteristics of decentralization, transparency and certification incentive. In addition, SpacePi quickly gathered a large number of international top blockchain talents, aiming to take the online game industry as an opportunity to drive industry change, and build the world's top blockchain game infrastructure and NFT, metauniverse ecological application system.SpacePi inte–grates third–party resources through blockchain network and token mechanism, combining online virtual environment with physical environment, creating a border–less entertainment world and an unprecedented entertainment experience for global users.

In the future, SpacePi will continue to expand the diversified ecosystem, including storage cloud platform, game distribution platform, game prop trading platform, NFT prop asset exchange, advertising platform, metaverse mining and incubator, providing complete game solutions for players, miners, research and development, channels, etc. Developers can also create blockchain applications through the SpacePi toolset, as well as full NFT service support through other platforms.

2.2 Platform ecological construction

As a blockchain game supported by the concept of NFT + metamouniverse, Space–Pi includes several core plates in terms of platform ecological construction:

Under the support of TRX underlying technology, SpacePi can provide Dapp developers with easy to use, perfect blockchain game infrastructure, including visual development suite and chain ecological environment, developers need not pay attention to the implementation of blockchain technology, can directly in a graphical way, low threshold, fast and efficient blockchain game development.SpacePi hopes to provide players with a fair, just and open game environment with transparent data, transparent rules, no background manipulation prop drop rate, malicious induced consumption, hoping that the gamers' assets can be long-lasting, safe, and off-centric preservation. At the same time, SpacePi hopes to carry the value fission of the digital asset economic model to help developers and players achieve better consistency of interests:

-With multiple operating systems, multiple blockchain environments under the underlying support of TRX s

Application Development Framework;

Provides fully scripted, Component, and data-driven application development tools;

-A high-performance application, with the existing toolset, tightly combined with the block link port layer, allowing all games can easily support blockchain.

Realize the NFT of game assets and props, let anyone can participate in the generation, production, investment and collection of NFT, so that every subject participating in the game can get better value.

In addition, SpacePi can support third-party developers to program decentralized game applications and release of blockchain environments and hybrid architecture game applications. At the same time, SpacePi integrates the including blockchain-based distributed user account system, wallet and NFT digital asset circulation, which can realize the off-chain permanent storage and cross-chain use of in-application game asset NFT. To form with this:

Help developers interested in the development of game products derivatives, capitalize the content they produced, so that they continue to gain revenue in the use, management and circulation of assets, and provide convenient, de-centered game distribution channels;

Help fans and players transform their time and energy and props into assets that can be safely stored and circulated, giving players the right to manage and commercialize them.

The 2) Metacoverse Game Ecology

SpacePi believes that in the Internet world created by the meta-sphere, people are players and creators. The experience of virtual games now is incompa-rable to the incomparable stimulation and great explosive power of the metamos-mos at the time.

In the future, with the continuous development of VR and AR technologies, as well as the transaction support of blockchain technology, this blockchain-based decen-tralized platform metais expected to move from a certain game audience to a larger audience. In the crowd, the boundary between reality and the game will become more blurred, and the virtual will be closer to reality.

For current technology, the most likely way to realize the metacverse concept is gaming. Because virtual reality requires a lot of technology, the game is, to improve user immersion, and even improve the user experience.SpacePi is to use existing technology and the metaclographical community concept of virtual life blockchain games to form its own metachographical model.

In SpacePi's virtual life blockchain game, the metacverse concept has the following key features:

, Identity (identity)

, Friends (Friends)

•Immersiveness (immersion)

•Anywhere (, anywhere) Variety (diversity)

Low Friction (Low latency)

•Economy (Economy)

•Civility (Civilization)

SpacePi yuan universe game ecology established the game world allows game players in each game multiple universe can use specific blockchain assets, this is a real virtual world owned by users, users can fully control their content environment and applications, its scope can range from any static 3D scene to have more interactive applications or games.

At the same time, SpacePi metacverse game ecology is also committed to establishing a deep and deeply immersive virtual world, in which players cooperate to create virtual worlds and games, without central authority management, restore existing game manufacturers, players can use the practical token SpacePi of the platform to build, have and monetize the game experience in the blockchain.

The 3)SpacePi Exchange

In the ecological construction of SpacePi, SpacePi Exchange is a decentralized exchange supporting multi-chain. The multi-chain cross-chain scheme provides solutions for asset circulation, transfer and trading in different channels. The same time, the platform token SpacePi integrates the NFT concept,

improves the ability to resist external fluctuations and reduces the fluctuation of certification value. Further complete the construction of decentralized infrastructure, adhering to the purpose of blockchain, to create a decentralized virtual world. SpacePi will be building the safest, secure, stable, and efficient digital currency value for users worldwide

Network, providing the best quality of digital currency services. The self-developed matchmaking system can handle millions of transactions per second. In addition, in order to meet the diversified needs of users, SpacePi has not only developed an advanced matchmaking system for currency exchange, but also opened up safe and efficient C2C trading services for users to build a continuous, transparent, low-friction and non-discriminatory trading environment with blockchain technology and license-free economic model.

In the future, SpacePi pay attention to improving user experience at the same time, will also upgrade platform technology, improve the ecological system, with scientific and efficient management operation, accumulate distributed ecological resources and energy and lose the energy to the whole industry, finally through the application of the whole ecology, eventually form a cycle can assign, continuous development, to establish a global users without trust and highly decentralized financial infrastructure.

2.3 Core commercial value

structure.

ame ecology, SpacePi will support the era of the core ecology of NFT game system, which will open a new era of value Internet and SpacePi exchange.

Thanks to the advantages of sustainable development and innovative technologies, extensive commercial applications, and fine governance, SpacePi is competitive in the following aspects:

Technology: SpacePi has very mature and strong technical support. It has accumulated rich industry and technology experience in blockchain, games, artificial intelligence, NFT, metauniverse, VR/AR and other fields, and has made indus-try-leading breakthroughs in the development and application of the underlying technology of blockchain.

Industry resources: The SpacePi team perfectly gathers multi-industry indus-tries for many years

Veteran with experience and insight into the industry. And SpacePi will sign with the top leaders in the target industry

The strategic cooperation agreement will provide strong support for SpacePi to enter the target industry, so as to truly promote the actual implementation of SpacePi NFT+ metauniverse game applications.

-Business Governance: Unlike general game projects, SpacePi has a clear and clear strategic plan for the target industries, and continues to empower freedom, fairness and high-value ecological prosperity in an autonomous community mod-el.SpacePi is more focused and professionally on distributed decentralized, tam-per-free and encryption security and point-to-point

transmission value with blockchain technology, to penetrate target industries and quickly gain market share.

Capital management: The SpacePi capital management will, under the leader–ship of the SpacePi Ecological Development Foundation, strictly abide by the prin–ciples of fairness, justice and openness, and take the development of SpacePi as the main purpose.The SpacePi Ecological Development Foundation specially main–tains and ensures the security and sustainability of the funds.All SpacePi use of funds will be regularly disclosed to all investors to ensure the open use of funds.

Development space: SpacePi targets a trillion–level game market. The develop–ment team effectively manages general discussion, code management, financial management, compensation management and privileged operating scope to ensure sustainability.

To sum up, with the support of the core competitiveness, the commercialization logic of SpacePi is clear. Based on the TRX framework system, each technical link and organization of SpacePi has a strong target and logic

Set genes, and on this basis put forward many modular, modified technical schemes or mechanisms.

1） User ecology

SpacePi will create a unique pass for digital encryption for all users0

Provide users with low threshold and high security wallet, and become a secure payment platform for players to participate in chain games.

Build digital tokens circulating in global game scenarios: SpacePi supports the overall ecological trading and settlement.

Build a benign and sustainable ecology around users, including NFT games, pledge mining, etc.

2) Technical level

Modular blockchain functions, integrated into the TRX engine and its front-end development tools, directly cover DAPP third-party developers, infiltrate SpacePi tokens into hundreds of thousands of games and applications, and cover more than one billion users around the world.

Integrate blockchain technology into back-end service logic, using node servers around the world to provide developers with fast communication solutions and reliable smart contract service-end logic.

Around developers, we will build a complete set of development tools, documentation and development community to provide the most perfect and convenient developer ecosystem.

3) operational level

-SpacePi will work with professional gaming and application global distribution teams to integrate the content of the SpacePi payment system for global operations to ensure the circulation of SpacePi worldwide. .

-Continue to improve the construction of DAPP chain tourism platform, and will reach strategic cooperation with the world's top media giants in the future to promote games and products based on SpacePi technology.

The 4) incentive level

At SpacePi,, users can order games through a special interface. Brand Business can select some settings for games and slots. The interface then calculates the cost of the game. If you want to play when the event is ready, a smart contract. Any participant who wanted to play the games had to pay a certain fee. There are several ways to get the SpacePi tokens and be able to join the game. When registering, the user uses a social network to confirm its identity. To join, they will receive the tokens. First, these tokens can only be used to check the game. Only after receiving a reward can users exchange tokens for prizes or cash. Exchange the tokens into prizes or cash in. Existing users receive token rewards when they invite friends to join SpacePi. Once invited users join at least one game, the token becomes available. Another way to get a token is to buy it from an external exchange. Each user account is connected to the wallet address. Users can add tokens they purchased outside of the system to the wallet.

Finally, each time a user wins a game, they receive a token as a reward. Some areOnly one winner of the game can get even more tokens. Among others, many people who complete the game share bonus funds. Users can swap their tokens for SpacePi partners.

2.4 TRX public chain support

Binan Intelligent Chain (referred to as TRX) is a backbone in the dual chain mechanism of Binan, the world's largest digital currency exchange. TRX can be regarded as a blockchain parallel to the currency security chain. At present, it mainly serves the DeFi and NFT ecology.

some innovations in the consensus algorithm, its PoSA (Proof of Stake Authority) consensus algorithm, combining the function of entrusted certificate of equity (DPoS) and authority proof (PoA) mechanism, built on a network of 21 verification nodes, second-level file time can establish high-speed infrastructure for the DeFi protocol.The word smart (smart) in TRX is reflected in smart contract-related functions: TRX supports smart contract writing, compatible with existing Ethereum Virtual Machine) and all applications and tools under its ecosystem, developers can easily migrate and deploy the Ethereum DApp, save development energy. Finally, as a parallel chain that can interact with BC, TRX native supports cross-chain communication and transactions. In general, TRX's technical advantages are more obvious, reflected in the following aspects:

Smart contract: TRX has the writing function of smart contracts. Funcfunctional DApp are fundamental elements of the ecology constituting DeFi, while smart contracts represent the underlying rules and running logic of DApp. At the same time, programmability also greatly increases the expansion of TRX
Exhibition nature, to realize the diversification of DApp functions. Therefore, intelligent contracts are the cornerstone of the establishment of currency security DeFi ecological "building".

-Compatible with EVM: TRX is compatible with the existing Ethereum virtual machine EVM (Ethereum Virtual Machine) and all applications and tools under its ecosystem, greatly lowering the threshold for developer DApp development. Developers can easily realize the migration and deployment of Ethereum DApp, saving development energy. The significance of EVM compatibility is to maximize the compatibility with the most popular Ethereum ecology, to attract developers and overflow funds on Ethereum.

–Cross–chain function: The significance of cross–chain is to enrich the currency of DeFi ecology and increase mobility. Up to now, the Canal has completed the cross–chain exchange of ERC20 (E T H, L I N K, U S D T, D A I, etc., etc.) and other assets on Ethereum in BTC,. This means that these assets can migrate to the Binan smart chain, to become the liquidity of DEFI operation.

Based on the

The people chose it TRX

As the foundation of TRX, TRX creates more conceivable space for SpacePi layer construction and the compatibility of chain ecosystem, but also creates more ecol–ogy for the circulation of SpacePi tokens.

Chapter III, SpacePi Technical System

3.1 User Service Layer

The 1)SpacePi Smart Wallet

SpacePi will develop exclusive SpacePi smart wallet in the ecology. Users can pay more than 100 chains and more than 30 traditional payments through SpacePi smart wallet, get through major ports of exchanges, conduct payment transactions according to real-time exchange rate, deduct equivalent SpacePi, to achieve sec-ond-level transactions and get accounts in real time.

-One-stop management: manages multiple digital currencies through SpacePi smart wallet, supporting not only the storage and management of mainstream assets such as Bitcoin and Etherecoin, but also standard agreements for smart contract platforms such as Ethereum and TRX, rapidly increasing tokens issued on various platforms. While reducing user management burden, it also provides wallet services for new user blockchain projects, allowing the project team to focus more on core services.

-Decentralized Services: SpacePi Smart Wallet adheres to the core essence of blockchain and provides users with decentralized digital currency storage solutions. The wallet key and the address private key information of all types of currency are stored in the user's local system. At the same time, SpacePi Smart Wallet provides convenient key backup solutions for users with only a single backup, write down 12 words, and save it to a safe place. Even with the digital currency category, use a backup of 12 words

You can recover all categories of digital currency assets.

–Multiple security: in addition to let the user fully control the wallet key, SpacePi smart wallet also for different sizes of digital asset management, provide multiple signature technical guarantee and two–step authorization verification, users can choose to mobile phone verification code, fingerprint, live verification way, to guarantee the security of digital currency assets.

Multilingual Support: The SpacePi Smart Wallet Program will support multiple languages in mainstream digital currency markets such as China, Britain, Japan and South Korea, clearing language barriers for building world–class wallet applications. The Blockchain Wallet is a software program that stores cryptocurrency, and every registered user of SpacePi has a private key (secret number) leading to their wallet. This key is the only way to access their digital currency address, and is therefore the only way to receive or send credit.

In the wallet, users retain their application certificate in the SpacePi ecology, the change of the application certificate, corresponding to the change in the ledger information of the SpacePi main network. The essence of managing a wallet is managing private keys, and once lost there is almost no chance of recovery.

2) Privacy Protection

In order to solve the problems of unequal information and false evaluation fraud, SpacePi will encrypt and save identity

information into the system through asymmetric encryption technology. To ensure that information on the chain is effective, on and secure. The specific application principle is as follows: the users in each link on the SpacePi need to register on the system, and the registered users have a unique private spoon to prove the true identity information. Every user with a private key can record information on the blockchain or view information within permissions.

The mechanism of SpacePi privacy protection is as follows:

–Generation of public key and private key: the user should first generate the ciphertext of 256 bit private key (yellow key) through the SHA256 (Security Hash) algorithm.When the HASH function is used, the Data length changes and the hash value length unchanged; each Data character corresponds to a unique hash value, which can be used as a data fingerprint. Use this private key with an elliptical encryption algorithm to generate the public key (light purple key), which can let everyone know. Everyone can get the user's address through this public key, through the HASH function. Due to the unidirectional nature of the HASH function, Gen: Hash (x) =y, is difficult to find X. through y if you want to crack the public key through the address, or crack the user's private key through the public key.

–Encryption and Decryption: Encryption —— If someone (such as a user) wants to encrypt the data, use the public key to encrypt it. Decpt one by one decrypt requires a private key, which only the user knows.

3.2 Blockchain underlying services

The 1) Distributed System

Distributed computing is a computer science that studies how to divide a problem that requires very huge computational power to solve into many small parts, then assign these parts to many computers for processing, and finally put these results together to get the final results. Distributed system is a system with components distributed on a network computer and communication and action coordination through messaging. Simply understanding, distributed systems are connecting some computers through the network and then working together. Working together needs to solve two problems:

–Task decomposition: dismantling a problem into several separate tasks, each task running on a node, to achieve the concurrent execution of multiple tasks.
–Node communication: The nodes communicate with each other and require designing a specific communication protocol to implement. The protocol can be done like RPC or Message Queue.

One engineering problem for SpacePi in the field of transaction payment: high concurrent transactions, massive dataRun, these can all be solved using a distrib–uted system. Based on the hierarchical division and organizational structure in the application system, the structure of the distributed system can be divided into two layers of C/S structure and multi–layer structure (three–layer C/S structure). The former is traditional and mature applied technology, while the latter is becoming increasingly popular and evolving.

The SpacePi employs distributed systems with a multilayer structure as needed. Multi–layer application architecture is to add a middle layer between the traditional two–layer structure client and the database server, each layer to achieve a clear division of labor. Multi–layer structure has many technical advantages over the traditional two–layer application mode, which is easy to maintain in the follow–ing aspects. Distributed application adopts a multi–layer architecture, which rea–sonably distributes the logical structure of the application. The business logic is in the middle server. When the user needs to change the business logic rules of the application software, only change the program of the application server. Client programs basically require no changes.

–Fast execution: Thin client reduces the workload at the client side. High perfor–mance improves the application performance speed through load balancing and the data caching capability of the middle layer.

–High security: The middle layer isolates direct customer access to the database server and protects the database security. –Strong stability: the actual connection between the middle layer buffer client and the database makes the number of connections of the database smaller than the number of clients, and the database server more stable. The Quack mechanism can transparently transfer client work to other servers in the case of one server failure. Scaling is based on a multi–layer distribution system where more application servers can be deployed at the middle layer to improve response to clients while all changes are transparent to clients.

2) Distributed database system (Hbase)

HBase is a highly reliable, high-performance, column-oriented, scalable distributed database designed to address the limitations of SpacePi relational databases in processing large amounts of data.The HBase distributed database system divides a table into Region, s by rows and columns and then stores on different machines.
The HBase cluster mainly consists mainly of 2 — 3 HMaster and a large number of HRegionServer.HMaster avoids the single-point problem through multiple instances. It is mainly responsible for the management of Table and Region, such as the addition, deletion, modification, and checking of Table metadata; managing the load balance of HRegionServer and adjusting the distribution of Region.
Region split responsible for the allocation of new Region; automatic migration of HRegionServer on a HRegionServer after a failure, etc.HRegionServer is mainly responsible for responding to user I/O requests.
3) ledger structure
The ledger structure of SpacePi is a distributed ledger, and is a database that is shared, replicated, and synchronized among network members. Distributed ledger records transactions between network participants, such as consumer payment transactions for hotels and tourism. Each record in a distributed ledger has a time-stamp and a unique password signature, which makes the ledger an Auditable history of all transactions in the network. One implementation of distributed ledger technology is the open-source Hyperledger Fabric blockchain. To keep the ledger abstracted, only valid and promised transactions are included, and the peer may maintain the validation ledger. This is done by filtering out invalid transactions derived from the ledger hash chain.

The ledger structure of the SpacePi was constructed as follows. Since the PeerLedger block may contain invalid transactions (i. e., invalid approved transac–tions or have invalid version correlation), before adding transactions from the block to the vBlock,

Such transactions are filtered out by the peer body. Each peer itself (e. g., by using the bit mask associated with the PeerLedger) performs this operation.vBlock is defined as a block with no invalid transaction and has been filtered out. Such vBlock are dynamic in nature and may be empty.

3.3 Safety mechanism

SpacePi uses a combination of asymmetric encryption (RSA) and symmetric encryption (AES) to meet both data security and privacy requirements without overall performance. Asymmetric encryption technology is also a digital signature technology, implemented based on the public–private key of the elliptic curve encryption technology, which involves a hash function, the public key of the sender, and the sender's private key. Public and private keys are

different and correlated, and they can be generated based on the private key. Public key encrypted content, the corresponding private key can be decrypted.

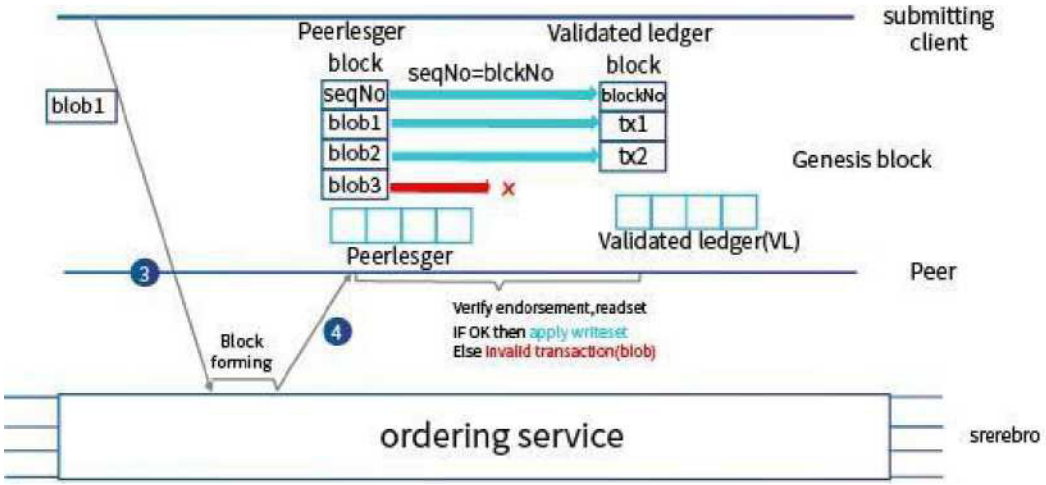
he content encrypted by the private key, the corresponding public key can be decrypted. The transaction information stored on the blockchain is public, but the user identity, assets and other information involve the privacy of the data subject. To protect privacy, SpacePi secondary encrypts and authorizes these private infor–mation, which can only be accessed by the other party holding a query key, thus ensuring data security and personal privacy.

By adopting homomorphism encryption technology, SpacePi can effectively solve the hidden power of public blockchain

Private problem, the technology can store the transaction information and private trust of the data subject in the blockchain

Interest balance, so that the public blockchain has the private effect of private blockchain, and will not change

Change common blockchain properties.



3.4 Cross-chain communication protocol

Communication protocols between the blockchain are similar to communication protocols like TCP/IP in traditional networks, passing messages by establishing reliable connections. The message is divided into message header (Header), and communication information (Data). The message header records the message source, destination, length, category, etc. During delivery, the message header is stripped layer by layer, modified, and the message is transmitted to the destination of the message. In addition, the transmission of the message is a state, the sender can understand the current communication state according to the feedback of the receiver, make the correct response.

The SpacePi Cross-Chain Communication Protocol (Cross Blockchain Communication Protocol) consists of two parts, communication address and communication package. The communication address includes the chain identification (from Chain ID) of the source chain and the current chain height (Height).The communication package is composed of parts, communication baotou (Header) and communication information (Data). Tong

The letter state corresponds to the communication state mechanism in the network communication protocol.

When a communication packet is sent, the communication state is received pending. When the receiver receives a message, it will return to a communication packet where the communication status is Send success. If the sender receives a communication packet containing the Send success identification, the sender will reply to the other party a communication packet containing the receive success identification.

That's a successful communication. If a communication packet reception fails during the process, if the receiver does not reply to "Send success", the sender will issue the transaction after a certain period of time to try to establish the communi-cation again.

3.5 Big data operation observation

SpacePi gives players a reasonable choice through game big data analysis. In addition, the user game data sorted out by the data operation platform is concen-trated on the observation platform, and the cooperative game merchants can ob-serve the customer payment and transaction behavior trajectory through the obser-vation platform.

Collecting and summarizing all these data can observe complete user behavior and user portrait, on the one hand, can drive product and operational decisions. For example, in the game marketing, for the cooperation of the yo couple merchants to promote advertising effect, promotional activities, how to send red envelopes to users are based on the basis of data analysis. On the other hand, it can push the pan-life information they subscribe to to users. For example, personalized game services and personalized entertainment services, which need to be based on user data analysis. According to the analysis of customer love characteristics, payment track, interest points, etc., can make SpacePi provide more intelligent services.

3.6 Non-homogeneous digital assets (NFT) data structure

Non-homogeneous digital assets (NFT) is a digital asset type applied in distributed bookkeeping networks, where asset instances are unique and are more flexible to serve blockchain network games through optimization of non-homogeneous digital assets (NFT) structures.SpacePi redesigned the data structure, and added custom data storage to accommodate possible game data and extended content. At the same time, the consensus, witness, block and other key processes to match the new data structure.Prop data in SpacePi is only fully recorded in block data during generation and attribute changes, and in ordinary transactions and flows, only hash pointers to ensure that the volume of block data does not grow too fast by long-term transactions.

Data separation of assets from contract: the storage of homogeneous and nonhomogeneous assets (NFT) and smart contract data on the chain is separated.There will be a large number of continuous transactions in SpacePi's network, which need to reduce the operational cost of asset analysis and circulation as much as possible. The separation of assets and contract can realize the separate analysis execution of the contract and the operation of the necessary results. Under the design of separating the asset from the contract data store, the asset owner has all the permissions of the asset, and the operation of the asset can only be completed by the authorization of the owner. Can avoid the separation of assets contracts and modify the properties of assets or call the assets of others, and without considering the constraints of contract factors is easier to achieve cross-chain acceptance, so the separation of assets and contract is a safer design.

3.7 Virtual machines for massive games

SpacePi has enough high concurrent processing capability. The vast majority of the current online games,

When the user scale reaches a degree, its servers require a lot of data processing in a short time that is unattainable in existing Ethereum networks.

SpacePi adopts innovative consensus mechanism, theoretical throughput of about one million TPS, its high concurrent processing performance under reasonable data management mode design to support the development and normal operation of existing games, basically meet the operation demands of large networked games in the platform, to ensure that the user's game experience is almost no different from the existing centralized games.

Due to the very high frequency of data interaction in large-scale online games, DNF has set a record of 60 0,000 people simultaneously online, and the Steam gaming platform has an amazing 14.2 million people online at the same time. If each online user submits data is regarded as initiating a consensus application, SpacePi's extreme throughput capacity is not enough to support this level of processing requests. The development team has designed different witness entrustment modes (Delegation Templates) according to the needs of witness speed, so that the single witness client does not simultaneously witness and dispose of all running games, but focuses on witnessing and counting the blocks of multiple games of the same type. Moreover, in this mode, the data submission / witness of different games is a relatively asynchronous process, and each game will select the appropriate delegate mode, while the data verification in the asynchronous mode can be done through the chain database service, that is, the user verifies on the chain and completes the data access. This process is very efficient and efficient enough to support player data operations in large-scale game scenarios.

A contract is a program that can be automatically executed, and as a system participant, follow the basic rules of the environment (compiler rules). The contract can define input and file, can accept and store value, while sending information and value outward. Smart contracts are designed on the premise of the mistrust principle, and each node can not be trusted. Due to the distributed preservation characteristics of the blockchain, each node on the chain has the same contract execution code. The operation results of the contract are witnessed by the computing power of the whole network, and decide whether the computing result is approved by the form of all voting. SpacePi's contract supports the definition of witness entrustment.

Chapter IV, SpacePi General Certified Economic Model

4.1 Distribution and distribution of SpacePi

SpacePi is the value token circulating in SpacePi ecology, and its value attributes integrate DeFi,

NFT and the Metaverse.The SpacePi is also a functional token used on the SpacePi platform. This is

An interesting, practical, virtual designed for the circulation of all kinds of value assets

The Currency. At the same time, SpacePi tokens also provides exchange, trading, auction and other support for NFT game items or props, and provides superior liquidity through pledge, liquidity and so on, realizes the certification incentive of data and assets, and creates a new high-value certificate for players and investors around the world.

Total amount of SpacePi issuance, handling fee allocation is as follows:

Transaction Fee: 5%

Transaction Destruction: 2.5%

Currency dividend: 2.5%

4.2 Incentive and circulation of SpacePi

Currency dividend: 2.5%

SpacePi can be obtained from official task rewards, resource rewards, from the exchange of secondary assets, or through mining.SpacePi can be used in the game to buy props, game gold coins, accelerated services, training services, etc., and can also be converted into other secondary assets.The SpacePi incentives includes but not limited to:

–Value creation: including (A) contribution to digital asset creation behavior, that is, developing games, making props. For a single digital asset (including game, application, in–game / application props), the amount of platform incentive is proportional to the asset value of the participants, the SpacePi platform of the duration and system total assets; (B) the contribution of the value of digital assets, to a certain fee and asset circulation scale can obtain SpacePi.For a single digital asset (including games, apps, games / apps

Internal props), the amount of incentive distribution is proportional to the total assets of the asset created by the developer;

–Platform contribution rewards: Users who contribute to the SpacePi community can get SpacePi0 Initially, we distributed the SpacePi with the historical contribution of the developer community.In the later stage, the platform will adopt bounty tasks and various forms such as free assets (such as free game characters) to encourage developers to carry out community behaviors such as new function development, upgrading, error modification and

testing on the platform. This part will be allocated from the platform foundation's asset reserve and the platform is divided into parts;

–Asset circulation: let the prop assets acquired in the game to get SpacePi o the incentive of the part is related to the gameplay and economic system, determined by the game developers and market rules, the platform in principle does not do rules and quantity restrictions;

–Behavior incentive: in the SpacePi platform, community and platform of a variety of effective behavior will be according to a certain contribution into SpacePi °, for example, user registration platform account, participate in various community interaction to obtain SpacePi ° platform through analysis access effectiveness, information integrity, behavior rationality, confirm the user behavior is effective, and the SpacePi incentive.The amount of incentives in this part is proportional to the interactive content (such as post, thumb up, reply, etc.), inversely proportional to the total number of users of the platform and the duration of the platform, and has an upper limit;

–SpacePi Consensus Work Contribution Award.After users get SpacePi, SpacePi will have a wider domain of circulation.SpacePi can be exchanged with all digital currencies in SpacePi, and SpacePi is settled with global legal currencies.SpacePi supports the circulation and payment of all links in the ecology, such as receipt and payment, transfer, legal currency trading, currency charging, coin withdrawal, currency voting, STO gateway, currency matching, mortgage, public welfare,

testing on the platform. This part will be allocated from the platform foundation's asset reserve and the platform is divided into parts;

–Asset circulation: let the prop assets acquired in the game to get SpacePi o the incentive of the part is related to the gameplay and economic system, determined by the game developers and market rules, the platform in principle does not do rules and quantity restrictions;

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Chapter V, Project Development Planning

Time	Development planning
June 2021	SpacePi has set up a technical team
July 2021	The SpacePi Exchange began its development
August 2021	SpacePi goes on a decentralized exchange
September 2021	SpacePi Exchange online (SpacePi is platform currency)
November 2021	SpacePi launched Dapp
December 2021	SpacePi main line
January 2022	SpacePi was launched on major exchanges

o participate in the purchase of SpacePi 〃 pre-sale (that is, digital asset exchange), please read the SpacePi white paper to fully understand the technical characteristics of SpacePi 〃, the risk and-return characteristics of pre-sale, and be clear that the SpacePi 〃 project will not provide the return or withdraw cash of exchanged digital assets under any circumstances.The SpacePi team will make reasonable use of the digital assets raised by pre-sale and regularly disclose the same as disclosed in the white paper. However, no matter how careful it is, there will always be risks. The current predicted risks, including possible policy risks, transaction risks, pooling risks, information security risks, etc.

1、 Policy-based risks

At present, some countries in the world'regulatory policies on blockchain projects and ICO financing are not clear, and there is a certain possibility of participant losses due to policy changes. In addition, blockchain technology has become the main object of supervision in various major countries in the world. If regulatory subjects intervene or exert influence, the SpacePi platform and its SpacePi tokens may be affected by it, hinder or even directly terminate their development.

2、 Transaction risk

As a digital currency asset, its transaction has extremely high uncertainty. Due to the lack of strong supervision in the field of digital asset trading, digital currency has risks such as soaring and falling, all-weather trading and dealer operation. If individual participants have no long-term investment experience, it may cause losses to personal assets. Investors should properly choose the investment method according to their own situation and experience.

3, security risk

Digital cryptocurrency has the characteristics of anonymity, difficult to trace, easy to be exploited or hacked by criminals, or may involve criminal acts such as the transfer of illegal assets. Before participating in the decision, please fully understand the team background, know the overall framework and ideas of the project, reasonably estimate their own vision, and rationally participate in token crowdfunding.

7.2 Disclaimer

1、 This white paper is used only for the purpose of conveying information and does not constitute any investment advice, investment intention or abetting investment.

2、 This White Paper does not constitute or does not understand as any sale, or any invitation to a sale, any form of securities, and is not any contract or commitment of any kind.The SpacePi platform clearly indicates that the relevant interested users clearly understand the risks of the SpacePi platform. Once they participate in the investment, the project participants say that they understand and accept the risks of the project, and are willing to bear all the corresponding results or consequences for this purpose.